

## Short Outline of Report

Title: Results of Chemical Analysis and Quality Control for the USEPA Well MW02, Pavillion, WY; 2012

### **INTRODUCTION** (Describe background of project and provenance of sample) (Donna)

- Describe USGS Pavillion project and reference USGS SAP
- MW02 same analytical and qa/qc as MW01
- USGS and USEPA agreed to split sample collected by USEPA at MW02 on April 22, 2012 for laboratory analysis
- Samples were delivered to TAL by USEPA
- TAL under contract to USGS NWQL
- Agreement was for USGS to deliver results to USEPA

### **Purpose and Scope**

#### **Purpose** (Donna)

- Provide results for selected water chemistry analysis by independent laboratory
- Provide results for quality control and quality assurance review of results

#### **Scope** (Gary)

- Test Methods appropriate to samples were USEPA SW846 series
- Name analyte groups
- Describe the types of quality assurance and control procedures and practices (at least 5-levels of qa/qc; CoC, TAL, NWQL data package review, independent data package review, USEPA PE)

### **METHODS OF ANALYSIS** (Gary)

- Sample Receipt and Tracking (CoC, Appendix 1)
- Test Methods for Chemical Analysis (table 1)
- Analytical Quality Assurance and Quality Control (table 2, Appendices 2-4)
  - USEPA Performance Evaluation samples (qualifies results at laboratory level)
  - NWQL data package review SOP or form (Appendix 2)
  - Independent data validation review (SOP or form if any is possible Appendix 3)
  - TAL analytical description such as abbreviations, types of quality control such as matrix spike, blanks and duplicates (Appendix 4)

### **RESULTS** (attachments 1-5 and table 3) (Gary)

The TAL report as PDF and excel are provided as an attachments 1-5.

- Chain of Custody, Sample Preservation, and Sample Holding Times (Attachment 1)
- Water Chemistry (Attachments 2 and 3)
- Quality Assurance and Quality Control (Attachments 2 and 3)
- Laboratory and Result Qualifiers (Table 3)
  - Statement regarding “no” qualifiers on TAL based on PE sample results
  - Result-level qualifiers
    - Blanks
    - Duplicates
    - Spikes within acceptance range
    - Lab control samples

#### **LITERATURE CITED** (Gary and Donna)

- USGS Sampling and Analysis Plan
- EPA Draft Report on Pavillion groundwater quality dated December 8, 2011.
- EPA Methods of Analysis (?) possibly incorporate by reference to TAL report or live links to EPA Web sites with methods.

#### **TABLES** (Gary)

Table 1. Test Methods for Chemical Analysis (list the methods not results)

Table 2. Quality Assurance and Quality Control Methods (list the QA/QC procedures, not results)

Table 3. QA/QC Results

#### **APPENDICES** (Gary)

Appendix 1. NWQL ASR and CoC forms

Appendix 2. NWQL SOPs for Data Package Review

Appendix 3. Data validation SOPs for Data Package Review

Appendix 4. Read me file on TAL data package organization, content, and list of abbreviations

#### **ATTACHMENTS** (Gary)

Attachment 1. Chain of custody sheets from incoming samples arriving at the Test America Laboratory, Date

Attachment 2. PDF Table of Groundwater Quality and Quality Control Results for VOCs, SVOCs, major ions, trace elements from Test America Laboratories (Data report)

Attachment 3. PDF Table of results for glycols

Attachment 4. Excel file containing table of groundwater quality and quality controls for VOCS, etc.

Attachment 5. Excel file containing table of groundwater quality and quality controls for glycols

\*\*\*\*\*Possible list of peer reviewers\*\*\*\*\*

Gary to provide a list of people familiar with TAL data packages, QA/QC, CoC, and chemical compound groups to Donna and John Z.